

Work Order ID 60489

Tuesday, July 13, 2010 10:01:10 AM



Page 1

Item ID: D3500-1

Revision ID:

Item Name: Saddle

Start Date: 7/13/2010 Start Qty: 12.00

Required Date: 7/20/2010 Req'd Qty: 12.00

Reference:

Approvals: Process Plan: H Date: 10-7-13 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____



Setup Start



Stop



Cust Item ID:

Customer:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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100	HAAS CNC VERTICAL MACHINING #1	0.00							
	HAAS 1	0.00							
HAAS CNC vertical machine #1		<p>Memo</p> <p>Program Batch No. <u>60489</u> Double check by: <u>ms</u> <input type="checkbox"/> 1-Machine Step No 1 per Folio FA641 and inspect per attached Dimension Sheets <input type="checkbox"/> 2-Machine Step No 2 per Folio FA641 and inspect per attached Dimension Sheets <input type="checkbox"/> 3-Machine Step No 3 per Folio FA641 and inspect p</p>							

110	QC2- Inspect parts off machine FAI/FAIB	0.00							
	QC	0.00							
Quality Control		<p>Memo</p> <p>Double check by: <u>ms</u> <u>10-8-17</u></p>							

120	QC8- Inspect parts - second check	0.00							
	QC	0.00							
Quality Control		<p>Memo</p> <p>Double check by: <u>ms</u> <u>10-8-17</u></p>							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 60489

Tuesday, July 13, 2010 10:01:10 AM

Page 2

Item ID: D3500-1

Accept

Revision ID:

Item Name: Saddle

Start Date: 7/13/2010 Start Qty: 12.00

Required Date: 7/20/2010 Req'd Qty: 12.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130



HandFinish

Hand Finishing

Chemical Conversion Coat per QSI005 4.1

0.00

Memo

0.00

ml 10 08 18 (20)

140



Powdercoat

Powder Coating

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

Memo

0.00

START TIME: 6:15 AM

OVEN TEMPERATURE:

7:25 AM FINISH TIME:

320°

ml 10 08 19 (20)

150



QC

Quality Control

QC3- Inspect Part Finish

0.00

Memo

0.00

=> ml 10 08 19

ml 10 08 19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 60489

Tuesday, July 13, 2010 10:01:10 AM

Page 3

Item ID: D3500-1

Accept

Revision ID:

Item Name: Saddle

Start Date: 7/13/2010 Start Qty: 12.00

Required Date: 7/20/2010 Req'd Qty: 12.00

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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160



Packaging

Packaging

Identify as per dwg & Stock Location: 424

0.00

Memo

0.00

10/8/24 sl (220)

170



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

10/08/24 [Signature]
CZ 10/8/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Tuesday, July 13, 2010 10:01:14 AM

Page 1

Work Order ID: 60489

Parent Item: D3500-1

Parent Item Name: Saddle




Start Date: 7/13/2010

Required Date: 7/20/2010

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev:A New Issue 06-06-15 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6102-013  Saddle Billet		Manufactured	No			100	Each	3.0000	1	12			

Location

Loc Qty

Loc Code

MAT43

3

59467

3

60713

20

40.00

J.A

10/08/16

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No.: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	<i>60489</i>
Description: Saddle		Part Number:	D3500-1
Inspection Dwg: D3500		Rev: C	Page 1 of 1-

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
A	0.483	0.490		0.486	0.486	0.486	0.486	vern	GA-01
B	1.175	1.185		1.180	1.180	1.180	1.180	"	"
C	3.145	3.155		3.150	3.150	3.150	3.150	"	"
D	1.175	1.185		1.180	1.180	1.180	1.180	"	"
E	0.365	0.385		0.373	0.373	0.373	0.373	"	"
F	0.490	0.510		0.499	0.499	0.499	0.499	"	"
H									
I	R1.575	R1.595		R1.590	R1.589	R1.588	R1.589	dia/ind	HAAS 3
J	0.240	0.260		0.248	0.248	0.247	0.248	vern	GA-01
K	0.490	0.510		0.501	0.501	0.501	0.501	"	"
L	3.590	3.650		3.620	3.620	3.620	3.620	"	"
M	0.315	0.322		0.317	0.317	0.317	0.317	"	"
N	0.256	0.262		0.260	0.260	0.260	0.260	"	"
O	6.500	6.520		6.509	6.509	6.509	6.509	vern	CNC-02
P	5.990	6.010		6.002	6.002	6.002	6.002	H.G	31006
Q	2.820	2.830		2.825	2.825	2.825	2.825	H.G	31006
R	2.495	2.505		2.500	2.500	2.500	2.500	vern	GA-01
S	2.245	2.255		2.250	2.250	2.250	2.250	"	"
T	1.120	1.130		1.125	1.125	1.125	1.125	"	"
U	0.540	0.560		0.551	0.553	0.553	0.553	"	"
V	0.793	0.803		0.798	0.798	0.798	0.798	H.G	31006
W	R.240	R.260		R0.250	R0.250	R0.250	R0.250	R.6	ref.
X	0.040	0.060		0.050	0.050	0.050	0.050	VERN	GA-01
Y	0.100	0.120		0.110	0.110	0.110	0.110	"	"
AA	R1.125	R1.145	R1.125/R1.145	R1.135	R1.136	R1.135	R1.136	dia/ind	HAAS 3
AB	R.490	R.510		R0.500	R0.500	R0.500	R0.500	vern	GA-01 RAD GAGE
AC	0.615	0.635		0.620	0.620	0.620	0.620	vern	GA-01
AD	0.240	0.260		0.253	0.253	0.253	0.253	"	"
AE	1.810	1.830		1.822	1.822	1.822	1.822	H-G	31006
AF	0.240	0.260		0.253	0.253	0.253	0.253	vern	GA-01
AG	0.140	0.160		0.150	0.150	0.150	0.150	Mic	GA-03
AH	0.140	0.160		0.152	0.152	0.152	0.152	Mic	118-120
AI	0.140	0.160		0.152	0.152	0.152	0.152	"	"
Accept/Reject									

Measured by:	<i>K.A</i>
Date:	<i>10/08/16</i>

Audited by:	<i>[Signature]</i>
Date:	<i>10/08/17</i>

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised.	KJ/EC	<i>[Signature]</i>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 60489
Description: Saddle		Part Number: D3500-1
Inspection Dwg: D3500	Rev: C	Page 1 of 1

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	#9	#10	#11	#12	By	Date
A	0.483	0.490		0.486	0.486	.486	.486	Vern	GA-01
B	1.175	1.185		1.180	1.180	1.180	1.180	"	"
C	3.145	3.155		3.150	3.150	3.150	3.150	"	"
D	1.175	1.185		1.180	1.180	1.180	1.180	"	"
E	0.365	0.385		0.373	0.373	.370	.370	"	"
F	0.490	0.510		0.499	0.499	.500	.500	"	"
H									
I	R1.575	R1.595		R1.589	R1.589	1.588	1.588	Dialind	HAAS3
J	0.240	0.260		0.248	0.248	.250	.250	Vern	GA-01
K	0.490	0.510		0.501	0.501	.500	.500	"	"
L	3.590	3.650		3.620	3.620	3.620	3.620	"	"
M	0.315	0.322		0.317	0.317	.316	.316	"	"
N	0.256	0.262		0.260	0.260	.260	.260	"	"
O	6.500	6.520		6.509	6.509	6.510	6.510	Vern	CNC-02
P	5.990	6.010		6.002	6.002	6.000	6.000	H6	31006
Q	2.820	2.830		2.825	2.825	2.825	2.825	"	"
R	2.495	2.505		2.500	2.500	2.500	2.500	Vern	GA-01
S	2.245	2.255		2.250	2.250	2.250	2.250	"	"
T	1.120	1.130		1.125	1.125	1.125	1.125	"	"
U	0.540	0.560		0.555	0.554	.553	.553	"	"
V	0.793	0.803		0.798	0.798	.798	.798	H-6	31006
W	R.240	R.260		R0.250	R0.250	R.250	R.250	R-6	ref.
X	0.040	0.060		0.050	0.050	.050	.050	Vern	GA-01
Y	0.100	0.120		0.110	0.110	.110	.110	"	"
AA	R1.125	R1.145		R1.136	R1.135	1.135	1.135	Dialind	HAAS3
AB	R.490	R.510		R0.500	R0.500	.500	.500	R-6	ref.
AC	0.615	0.635		0.620	0.620	.620	.620	Vern	GA-01
AD	0.240	0.260		0.254	0.253	.257	.257	"	"
AE	1.810	1.830		1.822	1.822	1.822	1.822	H-6	31006
AF	0.240	0.260		0.253	0.253	.253	.253	Vern	GA-01
AG	0.140	0.160		0.150	0.150	.150	.150	Mic	GA-03
AH	0.140	0.160		0.152	0.152	.156	.156	Mic	118-120
AI	0.140	0.160		0.152	0.152	.152	.152	"	"
Accept/Reject									

Measured by: K.A
Date: 10/08/16

Audited by: [Signature]
Date: 10/08/17

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	[Signature]

DART AEROSPACE LTD		Work Order: 60489
Description: Saddle		Part Number: D3500-1
Inspection Dwg: D3500	Rev: C	Page 1 of 1

				Recorded Actual Dimensions				By	Date
Dim	Min	Max	Go/No Go Gauge	#13	#14	#15	#16		
A	0.483	0.490		.486	.486	.486	.486		Vern.
B	1.175	1.185		1.180	1.180	1.180	1.180		
C	3.145	3.155		3.150	3.150	3.150	3.150		
D	1.175	1.185		1.180	1.180	1.180	1.180		
E	0.365	0.385		.370	.370	.370	.370		
F	0.490	0.510		.500	.500	.500	.500		
H									
I	R1.575	R1.595		1.588	1.588	1.588	1.588		Indicator.
J	0.240	0.260		.250	.250	.250	.250		Vern.
K	0.490	0.510		.500	.500	.500	.500		
L	3.590	3.650		3.620	3.620	3.620	3.620		
M	0.315	0.322		.316	.316	.316	.316		
N	0.256	0.262		.260	.260	.260	.260		
O	6.500	6.520		6.510	6.510	6.510	6.510		
P	5.990	6.010		6.002	6.002	6.002	6.002		
Q	2.820	2.830		2.825	2.825	2.825	2.825		
R	2.495	2.505		2.500	2.500	2.500	2.500		
S	2.245	2.255		2.250	2.250	2.250	2.250		
T	1.120	1.130		1.125	1.125	1.125	1.125		
U	0.540	0.560		.553	.553	.553	.553		
V	0.793	0.803		.798	.798	.798	.798		
W	R.240	R.260		.250	.250	.250	.250		Rad Gauge
X	0.040	0.060		.050	.050	.050	.050		Vern.
Y	0.100	0.120		.110	.110	.110	.110		"
AA	R1.125	R1.145		1.135	1.135	1.135	1.135		Indicator.
AB	R.490	R.510		.500	.500	.500	.500		Rad. Gauge
AC	0.615	0.635		.620	.620	.620	.620		Vern.
AD	0.240	0.260		.254	.254	.254	.254		
AE	1.810	1.830		1.822	1.822	1.822	1.822		
AF	0.240	0.260		.257	.257	.257	.257		
AG	0.140	0.160		.150	.150	.150	.150		
AH	0.140	0.160		.156	.156	.156	.156		
AI	0.140	0.160		.152	.152	.152	.152		
Accept/Reject									

Measured by: *[Signature]*
Date: 10.8.17

Audited by: *[Signature]*
Date: 10/08/17

Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	<i>[Signature]</i>

DART AEROSPACE LTD		Work Order: 10489
Description: Saddle		Part Number: D3500-1
Inspection Dwg: D3500	Rev: C	Page 1 of 1

				Recorded Actual Dimensions				By	Date
Dim	Min	Max	Go/No Go Gauge	#17	#18	#19	#20		
A	0.483	0.490		.486	.486	.486	.486		Ver.
B	1.175	1.185		1.180	1.180	1.180	1.180		
C	3.145	3.155		3.150	3.150	3.150	3.150		
D	1.175	1.185		1.180	1.180	1.180	1.180		
E	0.365	0.385		.370	.370	.370	.370		
F	0.490	0.510		.500	.500	.500	.500		
H									
I	R1.575	R1.595		1.588	1.588	1.588	1.588		Indicator
J	0.240	0.260		.250	.250	.250	.250		Ver.
K	0.490	0.510		.500	.500	.500	.500		
L	3.590	3.650		3.620	3.620	3.620	3.620		
M	0.315	0.322		.316	.316	.316	.316		
N	0.256	0.262		.260	.260	.260	.260		
O	6.500	6.520		6.510	6.510	6.510	6.510		
P	5.990	6.010		6.002	6.002	6.002	6.002		
Q	2.820	2.830		2.825	2.825	2.825	2.825		
R	2.495	2.505		2.500	2.500	2.500	2.500		
S	2.245	2.255		2.250	2.250	2.250	2.250		
T	1.120	1.130		1.125	1.125	1.125	1.125		
U	0.540	0.560		.553	.553	.553	.553		
V	0.793	0.803		.798	.798	.798	.798		
W	R.240	R.260		.250	.250	.250	.250		Rad. gage
X	0.040	0.060		.050	.050	.050	.050		Ver.
Y	0.100	0.120		.110	.110	.110	.110		"
AA	R1.125	R1.145		1.135	1.136	1.136	1.136		Indicator.
AB	R.490	R.510		.500	.500	.500	.500		Rad. gage
AC	0.615	0.635		.620	.620	.620	.620		Ver.
AD	0.240	0.260		.254	.254	.254	.254		
AE	1.810	1.830		1.822	1.822	1.822	1.822		
AF	0.240	0.260		.257	.257	.257	.257		
AG	0.140	0.160		.150	.150	.150	.150		
AH	0.140	0.160		.156	.156	.156	.156		
AI	0.140	0.160		.152	.152	.152	.152		
Accept/Reject									

Measured by: <i>[Signature]</i>
Date: 10.5.17

Audited by: <i>[Signature]</i>
Date: 10/08/17

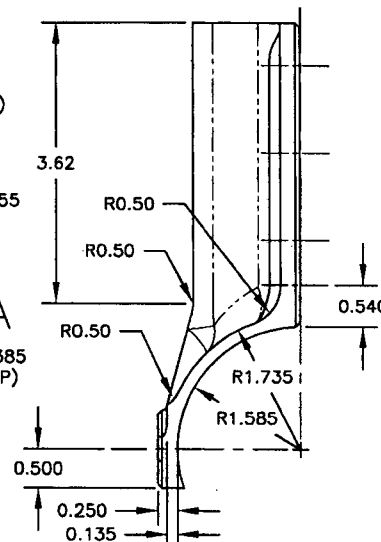
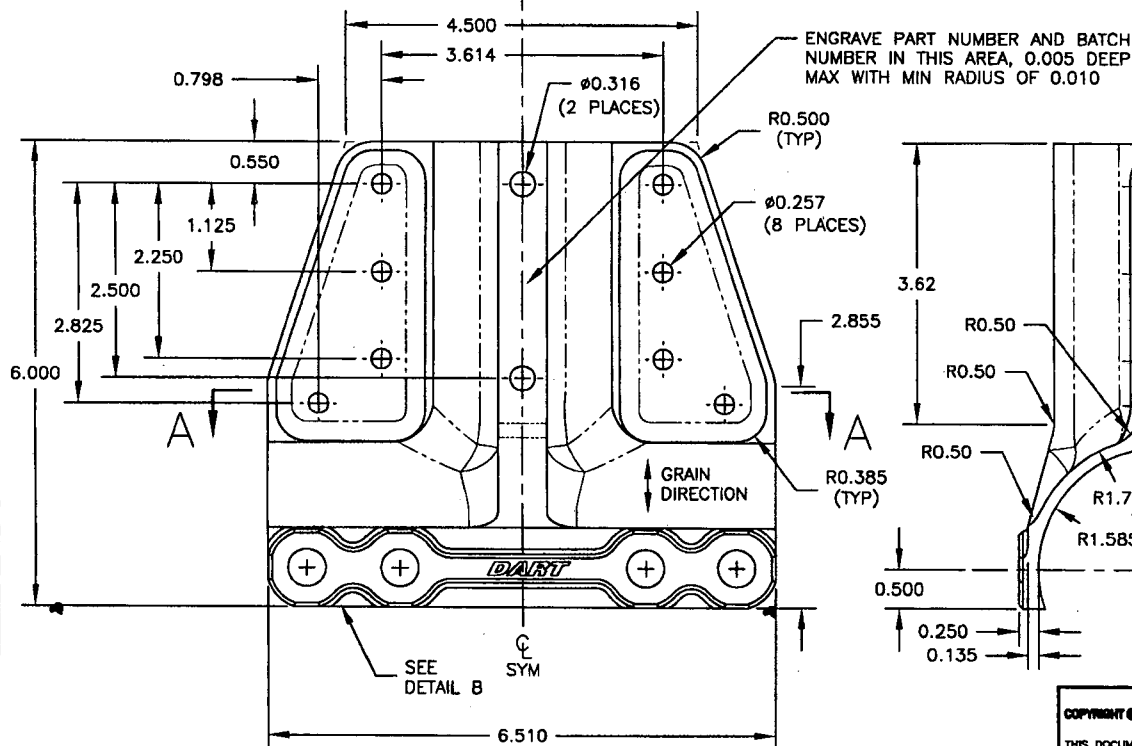
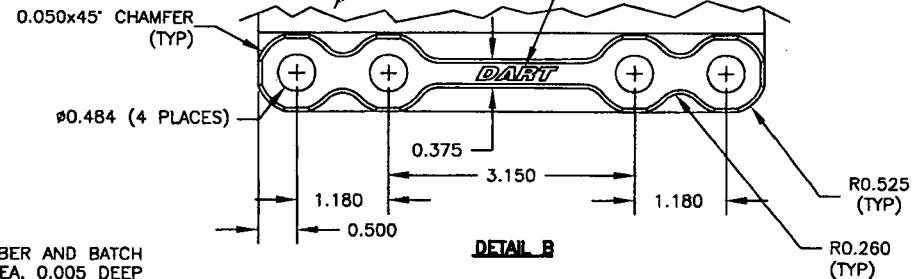
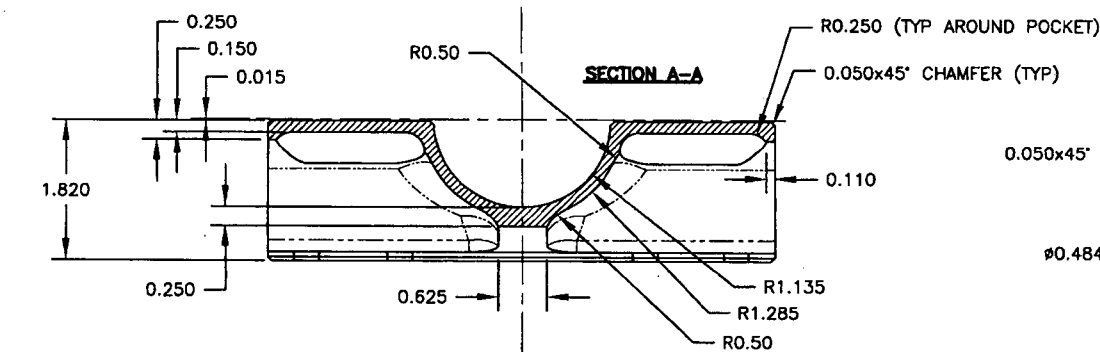
Rev	Date	Change	Revised by	Approved
A	06.09.26	New Issue	KJ/EC	
B	08.10.07	Dimension H removed	KJ/DD	
C	08.11.28	Dimension 'M' revised	KJ/EC	<i>[Signature]</i>

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT

WITHOUT NOTICE
WORK ORDER

NO. *60489*
010-7-13

ENGRAVE DART LOGO IN
THIS AREA TO A MAX
DEPTH OF 0.015 AND A MIN.
TOOL RADIUS OF 0.250



D3500-1 SADDLE

- 1) MATERIAL: 6061-T6/T651 (QQ-A-200/B OR QQ-A-250/11)
(MAKE FROM D6102-013 SADDLE BILLET, 6061)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1,
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER
DART QSI 005 4.3
- 3) BREAK ALL SHARP EDGES 0.010 TO 0.020
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES

RELEASED

06.08.15

C	06.06.30	MAT'L NOW 6061-T6/T651
B	06.05.29	CHANGE DIMS; MAT'L NOW 7075-T7351
A	06.04.18	NEW ISSUE
DESIGN	<i>QD</i>	DRAWN BY <i>PH</i>
CHECKED	<i>#</i>	APPROVED <i>#</i>
DATE	06.06.30	TITLE
		SADDLE
		SCALE
		2:3

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DART AEROSPACE LTD.

DART DART AEROSPACE LTD.
WINDERMERE, ONTARIO, CANADA

DRAWING NO. D3500 SHEET 1 OF 1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries